

Claims

What is claimed is:

1. A method of managing material supplied to an assembly process, comprising the steps of:  
establishing an actual demand for the material;  
generating a replenishment signal in response to the actual demand; and,  
supplying the material in response to the replenishment signal.
2. A method, as set forth in claim 1, wherein the step of establishing an actual demand includes the step of establishing an event in the assembly process in response to the actual demand and wherein the replenishment signal is generated in response to occurrence of the event.
3. A method, as set forth in claim 2, wherein the assembly process is adapted to produce a plurality of items, the assembly process being divided into a plurality of stages and wherein each item is represented by an order, and wherein the method includes the steps of monitoring a stage of at least one of the orders.
4. A method, as set forth in claim 3, wherein the event is completion of a stage for the at least one of the orders.
5. A method, as set forth in claim 1, wherein the step of supplying the material is performed by a supplier.
6. A method, as set forth in claim 1, including the step of providing a view of assembly demand.
7. A method, as set forth in claim 6, wherein the step of establishing an actual demand includes the step of establishing an event in the

assembly process in response to the actual demand and wherein the replenishment signal is generated in response to occurrence of the event and wherein the event is defined by the view of assembly demand.

8. A method, as set forth in claim 6, wherein the assembly process is adapted to produce a plurality of items, the assembly process being divided into a plurality of stages and wherein each item is represented by an order, and wherein the method includes the steps of monitoring a stage of at least one of the orders and wherein the step of providing a view of assembly demand includes the step of providing the view of assembly demand to a supplier of a part and wherein the view of assembly demand includes orders which include the part.

9. A method, as set forth in claim 8, including the step of categorizing the part associated with each order.

10. A method, as set forth in claim 9, wherein the parts are categorized as one of in process and consumed.

11. A method, as set forth in claim 10, including the step of instructing the supplier to maintain a predetermined number of parts in process.

12. A method, as set forth in claim 11, wherein parts categorized as in process are further categorized as one of shipped, delivered and received.

13. A method, as set forth in claim 9, wherein the parts are further categorized as one of begun, finished, ready to ship, shipped, received, and delivered.

14. A method, as set forth in claim 6, wherein the view of assembly demand includes a build sequence.

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15. A method, as set forth in claim 1, wherein the assembly process is adapted to produce a plurality of items, the assembly process being divided into a plurality of stages, each item being represented by an order, wherein the material includes a part to be delivered by a supplier, and wherein the method includes the step of:

establishing an event associated with the assembly process;  
generating a replenishment signal for the part, wherein the part is required at a later stage; and,  
delivering the replenishment signal to the supplier.

16. A method, as set forth in claim 15, including the step of delivering, by the supplier, the part to the later stage.

17. A method, as set forth in claim 1, wherein the assembly process is adapted to produce a plurality of items, the assembly process is divided into a plurality of stages, and each item is represented by an order, wherein the material includes a part to be delivered by a supplier, and wherein the method includes the step of:

establishing an event associated the assembly process , wherein the replenishment signal is related to the part and wherein the part is required at an another stage for a second order; and,  
delivering the replenishment signal to the supplier.

18. A method, as set forth in claim 17, including the step of delivering, by the supplier, the part for the second order to the another stage.

19. A method, set forth in claim 1, wherein the step of establishing an actual demand for the material, includes the steps of:  
dynamically determining a demand rate based on the actual demand;

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dynamically determining an order point based on the dynamically determined demand rate.

20. A method, as set forth in claim 19, further including the step of:

generating the replenishment signal when an amount of the material in process is less than the dynamically determined order point.

21. A method, as set forth in claim 19, wherein the steps of dynamically determining the demand rate and the order point are performed periodically.

22. A method, as set forth in claim 19, wherein the steps of dynamically determining the demand rate and the order point are performed upon the request of a user.

23. A method, as set forth in claim 19, wherein the order point is calculated using the following formula:

$$OP = D \times LT + SS,$$
 where OP is the order point, D is a demand rate, LT is a lead time, and SS is a safety stock.

24. A method of managing material supplied to an assembly process, comprising the steps of:

providing information associated with assembly demand of the material;  
establishing an actual demand for the material based on the information;  
establishing an event in the assembly process in response to the actual demand;

generating a replenishment signal in response to occurrence of the event;  
and,

supplying the material in response to the replenishment signal.

25. A method, as set forth in claim 24, wherein the assembly process is adapted to produce a plurality of items, the assembly process being divided into a plurality of stages and wherein each item is represented by an order, and wherein the method includes the steps of monitoring a stage of each order and wherein the step of providing a view of assembly demand includes the step of providing the view of assembly demand to a supplier of a part and wherein the view of assembly demand includes orders which include the part.

26. A method, as set forth in claim 25, including the step of categorizing the part associated with each order.

27. A method, as set forth in claim 26, wherein the parts are categorized as one of in process and consumed.

28. A method, as set forth in claim 27, including the step of instructing the supplier to maintain a predetermined number of parts in process.

29. A method, as set forth in claim 28, wherein parts categorized as in process are further categorized as one of shipped, delivered and received.

30. A method, as set forth in claim 25, wherein the parts are further categorized as one of begun, finished, ready to ship, shipped, received, and delivered.

31. A method, as set forth in claim 24, wherein the view of assembly demand includes a build sequence.

32. A method of managing material supplied to an assembly process, the assembly process being adapted to produce a plurality of items and being divided into a plurality of stages, and wherein each item is represented by an order, comprising the steps of:

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monitoring a stage of at least one of the orders;  
establishing an event associated with the assembly process in response to actual demand for the material;  
generating a replenishment signal in response to occurrence of the event;  
and,  
supplying the material in response to the replenishment signal.

33. A method of managing material supplied to an assembly process, wherein the assembly process is adapted to produce a plurality of items, the assembly process being divided into a plurality of stages, and each item is represented by an order, wherein the material includes a part to be delivered by a supplier, and wherein the method includes the steps of:

establishing an event associated with the assembly process;  
generating a replenishment signal for the part, wherein the part is required at a later stage; and,  
supplying the part in response to the replenishment signal.

34. A method, as set forth in claim 33, wherein the part is for the predetermined order at the later stage.

35. A method, as set forth in claim 33, wherein the part is for another order at the later stage.

36. A method of managing material supplied to an assembly process, wherein the assembly process is adapted to produce a plurality of items, the assembly process being divided into a plurality of stages, each item being represented by an order, wherein the material includes a part to be delivered by a supplier, comprising the steps of:

establishing an event associated with the assembly process;

generating a replenishment signal for the part in response to occurrence of the event, wherein the part is required at an another stage for a second order; and,

supplying the part in response to the replenishment signal.

37. A method of managing material supplied to an assembly process, comprising the steps of:

dynamically determining a demand rate based on an actual demand for the material;

determining an order point based on the dynamically determined demand rate;

generating a replenishment signal when an amount of the material in process is less than the order point; and,

supplying the material in response to the replenishment signal.

38. A method, as set forth in claim 36, wherein the steps of dynamically determining the demand rate and determining the order point are performed periodically.

39. A method, as set forth in claim 36, wherein the steps of dynamically determining the demand rate and determining the order point are performed upon the request of a user.

40. A method, as set forth in claim 36, wherein the order point is calculated using the following formula:

$$OP = D \times LT + SS$$
, where OP is the order point, D is a demand rate, LT is a lead time, and SS is a safety stock.

41. An apparatus, comprising:

an assembly area for receiving material and producing items using an assembly process; and,

a computer system coupled to the assembly area, the computer system being adapted to establishing an actual demand for the material and to generate a replenishment signal in response to the actual demand.

42. An apparatus, as set forth in claim 41, wherein the actual demand is related to an event in the assembly process and wherein the computer system is adapted to generate the replenishment signal in response to occurrence of the event.

43. An apparatus, as set forth in claim 42, wherein the assembly process is adapted to produce a plurality of items, the assembly process being divided into a plurality of stages and wherein each item is represented by an order, and wherein the computer system is adapted to monitor a stage of at least one of the orders.

44. An apparatus, as set forth in claim 41, wherein the event is completion of a stage for the at least one of the orders.

45. An apparatus, as set forth in claim 41, wherein a supplier supplies the material in response to receiving the replenishment signal.

46. An apparatus, as set forth in claim 41, wherein the computer system is adapted to provide a view of assembly demand.

47. An apparatus, as set forth in claim 46, wherein the computer system is adapted to establish an event in the assembly process in response to the actual demand and to generate the replenishment signal in response to occurrence of the event, wherein the event is defined by the view of assembly demand.

48. An apparatus, as set forth in claim 46, wherein the assembly process is divided into a plurality of stages and wherein each item is



represented by an order, and wherein the computer system is adapted to monitor a stage of at least one of the orders and wherein the apparatus includes a supplier computer system coupled to the computer system, wherein the view of assembly demand is delivered to the supplier computer system and wherein the view of assembly demands includes the part.

49. An apparatus, as set forth in claim 48, wherein the parts associated with each order are categorized.

50. An apparatus, as set forth in claim 49, wherein the parts are categorized as one of in process and consumed.

51. An apparatus, as set forth in claim 50, wherein a supplier of the part is instructed to maintain a predetermined number of parts in process.

52. An apparatus, as set forth in claim 51, wherein parts categorized as in process are further categorized as one of shipped, delivered and received.

53. An apparatus, as set forth in claim 49, wherein the parts are further categorized as one of begun, finished, ready to ship, shipped, received, and delivered.

54. An apparatus, as set forth in claim 46, wherein the view of assembly demand includes a build sequence.

55. An apparatus, as set forth in claim 41, wherein the assembly process is adapted to produce a plurality of items, the assembly process being divided into a plurality of stages, each item being represented by an order, wherein the material includes a part to be delivered by a supplier, and wherein computer system is adapted to establish an event in the assembly process when

the order completes a predetermined stage and to generate a replenishment signal for the part, wherein the part is required at a later stage.

56. An apparatus, as set forth in claim 55, wherein the computer system is adapted to deliver the replenishment signal to the supplier and the supplier delivers the part in response to receiving the replenishment signal.

57. An apparatus, as set forth in claim 41, wherein the assembly process is adapted to produce a plurality of items, the assembly process is divided into a plurality of stages, and each item is represented by an order, wherein the material includes a part to be delivered by a supplier, and wherein the computer system is adapted to establish an event in the assembly process when a first order completes a predetermined stage and to deliver the replenishment signal to a supplier, wherein the replenishment signal is related to the part and wherein the part is required at a later stage for a second order.

58. An apparatus, as set forth in claim 57, wherein the computer system is adapted to deliver the replenishment signal to a supplier and the supplier delivers the part for the second order to the later stage in response to receiving the replenishment signal.

59. An apparatus, set forth in claim 41, wherein the computer system is adapted to dynamically determine a demand rate based on the actual demand and dynamically determine an order point based on the dynamically determined demand rate.

60. An apparatus, as set forth in claim 59, wherein the computer system is adapted to generate the replenishment signal when an amount of the material in process is less than the dynamically determined order point.

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61. An apparatus, as set forth in claim 59, wherein the computer system is adapted to dynamically determine the demand rate and the order point periodically.

62. An apparatus, as set forth in claim 59, wherein the computer system is adapted to dynamically determine the demand rate and the order point upon the request of a user.

63. An apparatus, as set forth in claim 59, wherein the order point is calculated using the following formula:

$$OP = D \times LT + SS$$
, where OP is the order point, D is a demand rate, LT is a lead time, and SS is a safety stock.

64. A method of managing material supplied to an assembly process, comprising the steps of:

establishing an actual demand for the material;

generating a replenishment signal in response to the actual demand; and,

requesting the material in response to the replenishment signal.

65. A method of managing material supplied to an assembly process, comprising the steps of:

establishing an actual demand for the material;

generating a replenishment signal in response to the actual demand; and,

receiving the material in response to the replenishment signal.